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ABSTRACT

In preparation for the 1990 Carl D. Perkins Vocational Education Act reauthorization, the Department of Education established the National Assessment of Vocational Education (NAVE). The plan of study examined five broad research areas: (1) implementation of the Perkins Act; (2) access of special populations to vocational education; (3) status of vocational education in secondary schools; (4) status of postsecondary vocational education; and (5) skill training and the economy. Although the specific purpose of NAVE was to provide Congress with data regarding what directions the Perkins reauthorization should take, the report was also of interest to the vocational education profession. At the same time, the findings were so numerous that few professionals were able to conduct a comprehensive review of the research. A symposium was held to examine the NAVE findings. The symposium, composed of a keynote address and five presentations, focused on how vocational teacher educators, educators in graduate education, and researchers could promote the future: "Implications of NAVE" (Wirt); "NAVE Teacher Education" (Lynch); "NAVE: Implications for Graduate Education in Vocational Education" (Copa); "National Assessment and Vocational Education Research and Development" (McCracken); and "What National Assessment Says and What It Should Say: Synthesis and Summary" (Hillison, Swanson). (NLA)

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THE NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION "WHAT IT SAYS AND WHAT IT SHOULD SAY" A SYMPOSIUM

The American Vocational Education Research Association
The University Council for Vocational Education

National Center for Research in Vocational Education
University of California at Berkeley
1995 University Avenue, Suite 375
Berkeley, CA 94704

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FOREWORD

In preparation for the Carl D. Perkins Vocational Education Act reauthorization, passed by Congress in 1990, the Department of Education, as required by section 403 of the previous 1984 Perkins Act, established the National Assessment of Vocational Education (NAVE). Under the leadership of John Wirt, the NAVE research team submitted its plan of study to the Congress in January of 1987. The plan called for examining five broad research areas: (1) implementation of the Perkins Act, (2) access of special populations to vocational education, (3) status of vocational education in secondary schools, (4) status of postsecondary vocational education, and (5) skill training and the economy. NAVE distributed its first interim report in January of 1988, followed in 1989 by detailed reports.

While the specific purpose of NAVE was to provide the Congress with feed-forward data regarding what directions the Perkins reauthorization legislation should take, the report was obviously of interest and importance to the vocational education profession. At the same time, the NAVE findings were so numerous—amounting to five volumes—that few vocational education professionals were able to conduct a comprehensive review of the research. For these reasons, the National Center for Research in Vocational Education (NCRVE), the American Vocational Education Research Association (AVERA), and the University Council for Vocational Education (UCVE) decided to cooperate to organize a symposium dealing with the NAVE findings. This symposium took place at the American Vocational Association Convention in Orlando, Florida, in December of 1989.

"What did the National Assessment Say and What It Should Say" was the title decided upon by the three sponsoring groups. The keynote presenter was John Wirt, Director of the NAVE study. The three speakers that followed were asked to focus not so much on what the NAVE research found about the condition of vocational education, but what it should find the next time it was conducted and how vocational teacher educators, educators in graduate education, and researchers could promote the future as they envisioned it. Presenting the teacher educator point of view was Dr. Richard Lynch, Professor and Head of the Department of Vocational Education at the University of Georgia; the graduate education point of view was presented by Dr. George Copa, Professor and Chairperson of the Department of Vocational and Technical Education at the University of Minnesota and President of the UCVE; and the researcher point of view was

discussed by Dr. David McCracken, Professor at Ohio State University and President-Elect of AVERA. Summarizing the presentation was Dr. John Hillison, Professor and Program Leader of Agriculture Education at Virginia Polytechnic Institute and State University and Dr. Gordon Swanson, Associate Director of the NCRVE and principal architect of the symposium.

What follows are the remarks of the presenters published so that all educators and policymakers can benefit from the insights and wisdoms presented. In a narrow sense, the topic was the NAVE report, but in the broadest sense, the symposium dealt with reforming vocational education. In particular, it addressed the role of higher education in bringing about changes in the practice of vocational education. Borrowing a line attributed to the Habermas, there are probably many practices (in vocational education) that are dominant but dead. It is not that they are all wrong, but that they are fundamentally wrong as the predominant strategy for the future. Presented here are six views regarding what practices should be considered as strategies for the future.

Kenneth Gray
Program Moderator
Professor in Charge
Vocational and Industrial Education
The Pennsylvania State University

IMPLICATIONS OF THE NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION

John G. Wirt, Director
National Assessment of Vocational Education

First, I would like to thank you for the opportunity to speak with you today about the National Assessment of Vocational Education (NAVE) and to preview some of the important changes in federal policy that are coming in the new legislation that is about to be passed by Congress. I will also try to relate these changes and what we said in the NAVE study to issues of vocational teacher education, graduate education, and research on vocational education. I would like to indicate where I think some of the research that we conducted in the NAVE study contributed to the new policy that has been formulated by Congress and where it did not.

The effects of the new legislation will ultimately depend on how the wording and intent of Congress are interpreted by those who are responsible for implementing the new law. The principal actors involved obviously include the federal office of vocational education (and the rest of the Department of Education), the states, and, most important, vocational teachers and administrators at the local level. Whether federal law makes a difference or not ultimately depends upon the responses of vocational teachers and administrators at the local level. However, their responses will be conditioned by the cues, direct assistance, and regulatory guidance they receive from state and federal leaders as to what the new law means and how it can be translated into action. Vocational policymakers would be well served, I think, to consider the new law with some care and implement it accordingly.

A second topic that I would like to raise is some implications of the new National Board for Professional Teaching Standards for vocational teacher education, and, as it turns out, research on vocational education. As you know, the Board is in the process of developing procedures for certifying outstanding teachers and setting standards that should help to move along the process of professionalizing the practice of teaching in the schools. The Board itself is composed of teachers and other public figures. There unfortunately do not appear to be many individuals among the members of the Board who have a background in vocational education—at least none that are evident from their listed

affiliations. The main exception, if my memory serves me correctly, is Mary Futrell, who was once a vocational teacher.

A third area that I would like to discuss is the President's idea of working with the governors of the fifty states to set national goals for education. Setting national goals could help to sustain public support for educational reform and set priorities for change. One can imagine the appearance of a regular national "report card" every so often to let us know how well we are doing and what remains to be done. I recall that not so long ago the wisdom of establishing a Department of Education at the cabinet level was a controversial issue. Here we are, barely twelve years later, talking about setting national goals for education. These, and other such trends in education, are likely to be with us for some time because of the growing importance of economic performance to our national welfare, and of education to the performance of the economy. The dramatic changes occurring now in Europe can only further heighten these new realities.

The New Federal Law on Vocational Education and Secondary Vocational Education

The changes in federal policy on vocational education contained in the new proposed amendments to the Carl D. Perkins Vocational Education Act are substantial. This new legislation could well be seen in retrospect, several years from now, as having culminated in the transformation of the federal role in vocational education that began with the landmark Vocational Education Act of 1963. The most important steps in the legislation since then were the amendments of 1968 and 1976, and the Perkins Act of 1984 itself.

The single most important change in the new legislation for vocational education *at the secondary level* is the merging of the two federal goals of program improvement and expanding the access of special populations to quality programs into one program within the Basic Grant, having a combined goal of improving the quality of vocational instruction and support services in the schools where the needs for improvement are the greatest. In the Perkins Act, these goals were separate and the funds for accomplishing them flowed to largely different schools through different funding mechanisms.

The new legislation essentially casts the federal role in vocational education at the secondary level into the mold of federal policy in other areas of education. In a sense, the new policy is an inevitable result of the maturing of vocational education and federal policy regarding it. Federal resources will no longer be intended primarily to support the open-ended expansion of vocational education, but, rather, the targeted improvement of programs in the local districts and schools where the needs for improvement are the greatest. The proxy chosen by the Congress for determining these needs is the economic level of the communities in which the districts are located. Resources will be distributed among school districts in both the House and Senate bills according to the same formula used in the Chapter I Compensatory Education program. The basic change was first made by the House, and the Senate followed suit.

NAVE found empirical evidence that the needs for improving vocational programs are substantial in educationally and economically poor schools. Using national data from the High School and Beyond Survey, we found that schools in the bottom ten percent of average family income and academic ability of the students enrolled (1) were forty percent less likely than students in schools at the seventy-five percentile of the ranking to be able to attend an area vocational school, (2) offered vocational education in a third fewer program areas such as marketing or technical and communications, and (3) offered less than half of the number of advanced-level courses in a sequence of two or more occupationally specific courses. While measures such as these do not tap all that may be meant by offering quality vocational education, they certainly do reflect some dimensions of the term. Such issues of the relationship between the quality of vocational education and resources should be taken up by others in research on vocational education, using various sources of data in differing ways.

In certain respects, the new policy is also the logical consequence of the dramatic success and expansion of vocational education into the secondary schools that has occurred in this country over the past fifty years. In fact, this expansion may have occurred mostly in the past two decades or so since the passage of the 1963 Act. In the NAVE study we found that, today, over ninety-seven percent of the students currently graduating from high school take some vocational education, even if only one course. The average amount of vocational education taken by all students is about twenty percent of their high school program. Even students planning to obtain a baccalaureate degree take fifteen percent of their coursework in vocational education.

The most astounding statistic to me is that vocational education is the largest, single subject taken by students in American comprehensive, public high schools. The figures are that the average student who graduates takes 4.21 credits of vocational education and 4.02 credits of English. The reason this is astounding to me is that most states and school districts require at least three and usually four full years of English, whereas vocational education is an elective. Students evidently like vocational education.

The priority in the new federal legislation on improving the quality of vocational programs in the schools where the needs for improvement are the greatest will place vocational education in the forefront of the major educational challenge facing this country in the years ahead. The challenge is to significantly raise the educational achievement of average and below-average students, especially including those students who are from special populations.

In the past we have tended to measure the quality of education in the schools by how well the best of our students are prepared academically to attend four years of college. We have also tended to measure our ability to compete economically with other nations by the state of the art of our technology and the numbers and skills of our technological elites, not to speak of our military might. Rapidly we are learning that the crucial factor determining the health of our economy is not the skills of elites, but of the workforce as a whole: their ability to learn on the job, their technical knowledge, their ability to solve problems, and their capacity for taking responsibility. The economic challenge facing the country is to improve the quality of education to the point where the American workforce can out-think and out-do workers in the countries with whom we are competing. This means improving education for all students and, especially, the average and the below-average student. Otherwise, our standard of living in this country will fall more than it has already fallen. This is why improving education in the poorest schools in this country is such a vital matter and an appropriate federal goal for vocational education.

One of the major improvements in vocational programs at the secondary level spelled out in the House and Senate legislation is the integration of vocational and academic instruction. This also breaks new ground in that a specific direction is set for the improvement of vocational education in the high schools. The Basic Grant has not really included any priorities for program improvement in the past. One important aspect of the priority on integrating vocational and academic instruction is that it could help to bring

vocational education into the mainstream of reform and help bring improvement in education generally. As stated in the Senate bill, the opportunity and challenge for vocational education is to show how learning "in the applied context of broad and specific job skills can be utilized to enhance students' academic skills and motivate them to excel in both academic and vocational coursework."

The House and Senate bills also call for using federal funds to "upgrade the level of instruction" in vocational education and "offer sequences of courses leading to a job skill." In the NAVE study, we said that the priority should be revising and rebuilding the high school vocational curriculum to (1) upgrade skill levels of jobs for which students are prepared and (2) provide the mix of broad and specific occupational skills needed by different students to get good jobs or go on for further training and education. Quite clearly, the new federal legislation is more specific about the need for integrating vocational and academic instruction than either upgrading the job skill levels or broadening (i.e., generalizing) the occupational content of vocational education.

Finally, the priorities of the legislation include providing special populations with the guidance, counseling, and other supplementary services that they need to succeed in vocational education. The Senate bill lists the kinds of special support service that should be provided to students, and includes greatly strengthened requirements for equal access to vocational education.

In sum, the model on which the legislation is built is that federal funds should be used to, first of all, improve the quality of vocational instruction through the integration of vocational and academic learning, as well as the revision of its occupational content; and, then, to make sure that educationally disadvantaged students, handicapped students, women, and limited-English proficient (LEP) students have all the supplementary services they need to succeed in the improved programs.

The new legislation thus dramatically alters the structure of the old Basic Grant with respect to secondary schools. Where the old basic grant was divided right down the middle with the improvement of instructional *programs* being the purpose of one part and the provision of supplementary services to special populations as *individuals* being the purpose of the other, the new legislation is unified. The goals of program improvement and supplementary services are combined into one and local recipients are given the flexibility

within the overall priorities to undertake improvements and deliver services. Additional flexibility is gained in that fixed percentages of the funds received do not have to be spent on each of the special population groups. Even so, the intent is clear that special populations should be the primary beneficiaries of the improved programs and supplementary services and that the federal resource should be directed by local districts to schools with high concentrations of poor students.

The Senate also has proposed a minimum grant size of $25,000 in order to be sure that most recipients receive enough resources to initiate significant improvement activities. One of the most startling findings of NAVE was that over half of the grants to secondary school districts under the Perkins Act were less than $8,000; we recommended a minimum grant size of $100,000.

These three elements—that resources should be driven down to the local level by a formula, that one of the main priorities should be improving the quality of vocational programs and not just providing support services to individuals, and that the funds provided should be sufficient to undertake significant change—build some of the widely discussed and basic concepts of restructuring schools into the federal legislation on vocational education.

One major uncertainty in the new legislation is the relative emphasis that should be placed by local schools on helping special populations through providing supplementary services versus improving the instructional content of programs. Neither the House or Senate bills now are entirely clear on this issue and probably the uncertainty will not be completely resolved in the final legislation. The priorities are ambiguous. The advocates of supplementary services will say that what special populations need most is to receive special tutoring and other forms of assistance individually to help them succeed in the vocational programs in which they enroll. Advocates for program improvement will say that the greatest benefits for special populations from federal funding lie in strategically upgrading the instructional content of vocational programs in which special populations are enrolled, even if this means that other students who also enroll in the same programs will benefit, too.

Where the new legislation departs the most from current trends in education is in the role accorded to states in the implementation of the federal law. For secondary programs,

Congress clearly intends to drive most of the federal funds directly down to the local level through a clearly specified formula, leaving little room for the exercise of state leadership. The House bill would provide the states with about five percent or practically no discretionary resources to carry out leadership activities. The Senate has restored the level of support for state leadership activities to twenty percent of the Basic Grant, but even so has spelled out the specific activities that may be conducted in some detail, including requirements that twenty percent of the state funds (or four percent of the Basic Grant) must be spent on certain designated women's equity activities. The Senate bill would provide the states with additional room to exercise leadership at the postsecondary level, as will be discussed below.

The New Federal Law on Vocational Education and Postsecondary Education

The second major change in the new federal legislation is the introduction of a separate program for postsecondary vocational education apart from the program for secondary vocational education. In the House legislation, this separate program consists only of a formula for distributing Basic Grant funds to postsecondary institutions that is different from the formula for the secondary level. The Senate bill goes much further. It sets a percentage of the Basic Grant funds that must be separately spent at the postsecondary level, allows the states to distribute the funds according to either formulas they develop or proposal competitions, and establishes goals that are markedly different from the secondary level. The postsecondary program in the Senate bill would give the states a lot of discretion in how the federal funds would be used.

Congress has thus said, for the first time in the federal legislation, that the problems of postsecondary vocational education are different from secondary vocational education and require different solutions. The federal goals for postsecondary education include the support of programs in local institutions that serve special populations, that involve cooperative arrangements between business and industry, or that are strongly tied to economic development efforts within the state. Approximately one-third of the postsecondary funds must be spent on programs and services for single parents and displaced homemakers.

The creation of a separate postsecondary program requires choosing a percentage of the Basic Grant funds to be spent at the postsecondary level in comparison to the secondary level. This requirement will inevitably lead to issues of what the percentage should be and the extent to which federal policy should encourage the shift of vocational education from the secondary to the postsecondary level. The current version of the Senate legislation opens the discussion by allocating what appears to be a low percentage of the Basic Grant funds to the postsecondary level. The allocation in the Senate bill allows the states to choose a figure of between twenty-five and thirty-five percent, but that from this amount the optional grants to institutions of higher education for "mentoring programs" to prepare teachers for vocational education should be subtracted, since undoubtedly this will include the preparation of teachers for the secondary level.

One way to decide on the allocation is to compare the total contact hours of instruction delivered at the two levels. While we did not make any such comparisons in the final reports of the NAVE study, I would estimate from preliminary compilations we did that the number of contact hours of instruction delivered at the postsecondary level is about equal to the amount delivered at the secondary level, or a split of about fifty percent. This is considerably higher than the twenty-five to thirty-five percent of the Senate bill, suggesting that the Senate thinks federal policy should favor vocational education at the secondary level.

As one of the contractors to the NAVE study said in his report, policy on postsecondary vocational education has been a "long time a-coming." Part of the difficulty has been that there has been so little analysis of what major problems in federal policy should be addressed. Perhaps, it has not been possible to reach any agreement on what federal goals should be at the postsecondary level because there has been no postsecondary program requiring any consensus on goals. The wide divergence between the House bill and the Senate bill on goals for the postsecondary program is evidence of the lack of consensus. Nevertheless, there now is a program. Unfortunately, its goals are not very clear yet.

Intensive research into the problems and prospects of postsecondary vocational education is sorely needed. The area is ripe for the next NAVE study to tackle head on. We started in NAVE by looking carefully at enrollments, supporting a study of the sources of institutional quality, and looking at other sources of federal aid to the sector. Much more

remains to be done in order to be able to forge a federal role in vocational education at the postsecondary level that makes sense and meets real needs.

The Senate's postsecondary program also opens a door for schools of education to assist schools and postsecondary vocational institutions in the professional development of teaching staff and the recruitment of new candidates from business and industry. We considered studying the demographics of the teacher workforce in vocational education in the NAVE report, but discarded the idea because we could not find sufficient data to accomplish the task. We explored in a preliminary way what data on high school vocational education teachers we could find in the High School and Beyond Survey and from the Educational Testing Service's National Teacher's Examination. We found that vocational teachers are largely indistinguishable from academic teachers according to all of the criteria that was available (e.g., years of college education). The only major difference was that teachers in the field of trades and industry ranked significantly lower on verbal ability than teachers in other areas of vocational education. Policy-oriented studies of the knowledge and skills of vocational teachers in combination with the demographics of the vocational education teacher workforce (i.e., the rates at which they are currently entering and leaving the profession) could be extremely valuable for policy. Obviously, teacher preparation and the role of vocational teacher education programs in the professional development of teachers is an important issue. To my knowledge, very little policy-relevant information on the teacher workforce in vocational education has entered discussions of federal policy on vocational education.

Another new and truly important initiative in the postsecondary program of the Senate legislation is the program of grants to be awarded by the states to encourage the development of four-year technical preparation programs by a consortia of secondary and postsecondary institutions. Only five percent of the Basic Grant funds is allocated to these efforts, but their success is vitally important to the future of vocational education. Well-conceived and thoroughly developed technical preparation programs of the kind described in the Senate bill promise simultaneously to establish clear educational paths for students to rewarding careers in technical fields, and stimulate local economies through significantly expanding the available supply of well-trained and educated people. It is noteworthy that the Senate does not speak of "advanced placement" in postsecondary institutions for coursework taken in high school, but of a "common core of required proficiency in mathematics, science, communications technologies" to be learned in an applied setting.

Demonstration that the concept of applied learning can be made to work is a potential key to the future of vocational education, and an ideal way to show this is through the concept of a tech-prep program. Five percent of the Basic Grant is not large, but it provides a good start toward a new and well-focused federal role in the improvement of vocational programs.

The National Board of Professional Standards in Teaching

A third area that I would like to discuss is the new National Board for Professional Standards in Teaching, which is the body created by the Carnegie Corporation of New York to develop a national process for credentialling teachers for the elementary and secondary schools.

The Board has issued a report outlining its policies for development of the new teaching certificates, and is now in the process of establishing assessment procedures and standards for the first group of teaching fields. According to the current plans, certificates will be offered in approximately twenty different fields such as early childhood education (pre-K through Grade 3), middle-grade education (Grades 4 to 9), middle-grade science education, and so forth. Five of the twenty fields have been set aside for vocational education. The first certificates will be awarded in 1993.

The effects of these Board actions will not be felt on vocational education for some time; in the long run, however, the effects will be profound. Many years ago, the Carnegie Corporation supported the Flexner report on the training of doctors in medical schools. The report eventually led to major reforms in the practice of medicine and the preparation of doctors for the profession. Potentially, this new National Board for Professional Standards in Teaching will have the same kinds of important consequences for the training of teachers for the elementary and secondary schools. Not to be included among the kinds of teachers for whom the Board offers a certificate would be harmful to vocational education.

The independent process of assessment envisaged by the Board fits well with the variety of ways in which people are recruited into vocational teaching and learn their profession. This gives vocational education a "leg up," so to speak, on the process of certification compared to other areas of education.

One of the main challenges will be deciding upon the five fields in which certificates should be offered and defining what vocational teachers in each of those fields "should know and be able to do." A cornerstone of the Board's policy is parsimony in the number of fields where certificates will be offered. Developing a certificate for all of the various occupational specialties in vocational education, or even some of them, will not be possible. The number of fields will force the question to be asked of what the general knowledge is that comprises each of these five basic fields and distinguishes them from each other. The kinds of questions raised may be similar to the kinds of questions that reformers who are attempting to generalize the vocational curriculum into a few broad areas have been asking for some time. The responses could help to provide the directions for reforming the occupational content of the secondary school vocational curriculum to parallel the integration of vocational and academic instruction. Exactly what challenges the exercise will pose to the concept of "occupationally specific vocational education" I cannot foresee, but such challenges seem likely. Whether specific skills should be taught may not turn out to be the issue nearly as much as what specific skills have the most general value to students and therefore should be commonly taught. The next question might then be if, for many students, the vocational curriculum has been overly compartmentalized into highly specific categories of jobs.

The certification process will be developed through an extensive program of research. I am not aware of a similar research effort to test alternative methodologies and assess the validity of content behind the professional examinations that exist in any other area, including architecture, law, and engineering. The purpose of the research is to find the combination of assessment procedures that produces the best results for a reasonable expenditure of time and money. "Fair and trustworthy" results is what the Board says they are looking for. Methodologies that are being considered include essays, oral interviews, simulated classroom situations, simulated performance of other teaching tasks, portfolio review, limited observations of actual performance, and regular observation of performance in addition to conventional multiple-choice tests. Centers where the assessments will be performed will be established across the country.

The Board has said that the plan they have announced is only to "begin the conversation" that they expect to have with each of the teaching fields before arriving at procedures for awarding certificates. It seems to me that you, as professors of education who are deeply involved in the preparation of teachers, should take them up on the offer

and engage the process. Opportunities for research will exist to assist the Board in arriving at its conclusions. The essential question this research will be intended to answer for each of the teaching fields included is, "what should (vocational) teachers know and be able to do?"

National Goal Setting and Performance Accountability

Setting national goals for education could be one of the more important steps that we take in the years ahead to keep education in the firefront of the public mind and improve performance. The effort will not mean much, however, if at the same time neither the states nor local districts implement systems of performance accountability for measuring progress toward those goals. The two initiatives go hand-in-hand. Some capacity for reporting objectively on the results of education for students is necessary or the setting of goals could rapidly become a rhetorical exercise. In the long run, this could undermine public confidence in education rather than build or reinforce it. Simultaneously, performance cannot be measured well until goals are set to determine the outcomes of education against which progress is to be measured.

The true implementation of performance accountability in federal programs, as called for by the President and the governors, could drastically change the nature of the relationship between the federal government and the states in education. Requirements to develop performance standards and systems of performance accountability at the state level are included in new federal legislation on vocational education. Both the House and Senate bills have a new section spelling out the standards and measures that states are to develop. The language specifies the educational outcomes that should be included and sets a timetable.

But the Congress does not seem to have as much enthusiasm for the idea of performance accountability as the governors do. This is not altogether surprising to the extent that granting states greater flexibility in spending federal funds would be part of the bargain. One of the clear sticking points is that Congress wants to be sure that granting the states additional flexibility would not lead to a slackening of their efforts to use federal funds for expanding educational opportunities for special populations.

Prudence and careful consideration should be the watchword in moving to performance accountability for a number of other reasons as well. This is illustrated by some interesting work that was done in the NAVE study. The work indicates how the performance measures selected can have unexpected and possibly untoward side effects if care is not taken to think through the consequences and implications for the goals of vocational education.

One of our recommendations to Congress in the NAVE study was that requirements for the development of performance indicators by the states should be accompanied by a substantial program of investigator-initiated research grants to provide the capacity for obtaining this better understanding.

Chapter II in the Final Report from NAVE presents a new measure of the rate at which students are placed in jobs that use the vocational training that they have received. The conventional measure of training-related placement determines job-relatedness only at the level of the occupational field in which the student majored—however many courses the student may have taken in total or however many sources the student may have taken in fields other than his or her major field. The new measure described in the Final Report is called the "Skilled Jobs Course Utilization Rate," or Skilled Jobs CUR. The Skilled Jobs CUR counts usage rates course-by-course for all courses taken by each student and only gives credit for usage to jobs obtained by students that require medium or high levels of skill—that is, jobs that require more than three months of training. This measure has two important properties compared to the conventional measure of placements. First, it is highly sensitive to the number of vocational courses that students take, where the conventional measure counts students who take one course equally with students who take many courses. This can seriously distort the measured efficiency with which students are utilizing the skills that they obtain from vocational education. Second, the new measure is sensitive to the skill levels of jobs that students receive. The measure gives no credit for using skills learned in vocational education where the jobs obtained by students are low skilled.

A performance accountability system incorporating the Skilled Jobs CUR would create different incentives for vocational programs compared to the conventional measure of training-related placement. Under the commonly used measure of training-related placement rates, vocational programs would face incentives to expand the placement of

students in low-wage, low-skilled jobs, which generally are easier to find than medium- or high-skilled jobs. Continuation of such incentives over a period of time could seriously degrade the quality of the vocational programs within a state. The Skilled Jobs CUR would, conversely, create incentives for the placement of students in medium- and high-skilled jobs. This could, in the long run, result in the substantial improvement and upgrading of the vocational programs within a state with respect to the kinds of jobs that students obtain. Thus, the reflexive adoption of the conventional measure of job placement in a system of performance incentives, where poor performance would have real financial implications for institutions, could lead vocational education in the wrong direction.

Use of the Skilled Jobs CUR would bring to the forefront issues of the skill levels of jobs being obtained by the graduates of vocational programs. These issues are important and in the future should be addressed.

One general principle we recommended in the NAVE study was that systems of performance accountability will be much less likely to distort incentives in a system of vocational education if they are based on a variety of different measures of performance. Placement rates measure the economic outcomes of vocational education. Other important outcomes include the academic competencies of vocational students. These academic competencies may not be primarily the result of vocational education, but any system of performance accountability for vocational education must include the total educational achievement of the students. In addition to job skills and academic skills, vocational education can help students make decisions about what they want to do with their life; affect their attitudes toward work and other aspects of employability; and teach skills of solving problems, taking responsibility, and working in teams. A performance management system that only credited employment in a training-related job could seriously short-sell vocational education. This is what makes the development of a system of performance accountability so difficult and what presents an important agenda for research in the field of vocational education.

Investment by the federal government and the states in investigator-initiated research and demonstration activities within a framework of priorities and leadership is required to develop the broader range of improved measures of the outcomes of vocational education that is needed. Ideally, the federal Department of Education and the U.S. Office

of Adult and Vocational Education would have the resources and analytical capacity to provide some of this leadership.

Conclusion

In closing, I would like to note that all the topics I have raised here today stem from forces external to vocational education. Vocational educators may be accustomed to such an environment, but it seems to me that the times today are especially critical for the future of vocational education. As vocational educators and members of the university community, it is vitally important for you to engage these forces and shape the future of vocational education. Vocational education cannot afford to "wait and see what happens" or, worse yet, react defensively and then attempt to forestall the kinds of changes that appear to be coming. It is vitally important, I think, to seize the high ground; take action; and, most important, find ways of working with other educators and other people to improve vocational education.

The time has come for vocational educators to engage educators of all kinds and show them what vocational education has to offer in meeting the tremendous challenge of educating all students in this country. I am convinced from my experience with NAVE that vocational education in fact has much to offer. Vocational education can teach problem-solving skills and impart disciplines of resourcefulness and application that cannot be learned, or are not typically taught, in regular academic classrooms. It can expand opportunities for academic learning and provide occupational skills that students want and need because of their career interests and post-school plans. Vocational teachers also seem to be born with a care for students and a personal interest in their individual accomplishments that would serve all of education well if it could be somehow bottled and sold.

NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION TEACHER EDUCATION

Richard L. Lynch
Virginia Polytechnic Institute and State University

Introduction

I'm delighted to be here today and among such a distinguished panel of scholars and good thinkers. I thank you for giving me the opportunity to make some comments about teacher education within a context of vocational education assessment and improvement. When Gordon Swanson told me that John Wirt was going to inform us of what it is the NAVE study had to say about teacher education, I commented that it would be a very short presentation. I thank you for your comments, John. I learned much.

I'm attempting to accomplish three broadly-based objectives in my comments this afternoon:

1. Inform you, much like NAVE did, of what it is we know about vocational teacher education; and, perhaps equally important, what it is we don't know.
2. Present a wish list of what it is **I** wish NAVE had said about teacher education. And, no, Dr. Wirt, in my wish list, I promise not to stray beyond the ken of the NAVE study's charge.
3. Create just a bit of a future—or maybe it's back to the future—of what teacher education might look like in five years. Just how might an informed profession of scholars, teachers of teachers, and disseminators of research-based information operate? In and amongst all of this, I will suggest items to appear on an agenda of action.

My credentials to do this are probably a bit shaky, but I have spent twenty-plus years as a time-worn vocational teacher educator. I've consistently served on our university's teacher education study group, usually as the sole representative from the vocational teacher education programs. I chaired—rather unsuccessfully, I might add—vocational teacher education's response to the Holmes Group at Virginia Tech. And, finally, I've been studying and researching teacher education for several years, most

recently with funding from the Center, and I will be sharing some of those projects findings with you this afternoon.

What is Known About Teacher Education?

The obvious answer to the above question is "very little." Historically, we've collected data and assessed and assessed again information on secondary vocational education, postsecondary vocational education, students enrolled therein, equipment and facilities, funding formulas, financing, employment rates, employer satisfaction, the federal role in vocational education, and on and on. However, we've never really looked critically, analytically, and longitudinally at the teacher and what it is he or she knows or should know, what it is he or she does or should do, and what it is he or she believes or should believe and what it is . . . well, you get the point.

Furthermore, to the best of my knowledge or review, we've never looked at all at the teachers of teachers. In assessing the state-of-the-art on research on vocational teacher education, several authors concluded that teacher education is today and has always been an ancillary activity—that is, lacking in significant research that would move it toward becoming an intellectual field. By the way, this isn't just true of vocational teacher education; in fact, little research has been conducted on teacher education generally. Lanier and Little (1986) comment that "research on teaching teachers stands in stark contrast to research on teaching youngsters." It has been just a very few years that the American Educational Research Association (AERA) has even had a teacher education division and sponsored conference symposia on teacher education.

The dearth of research on teacher education seems surprising in that teacher education programs comprise a relatively large percentage of enrollments at over seventy percent of our nation's colleges and universities. There are at least twelve hundred institutions of higher education that prepare teachers. As examples of the census of education students, note the following: twelve percent of the full-time undergraduate enrollment at baccalaureate-level institutions, thirty-three percent of the graduate enrollment at master's-level institutions, and fourteen percent of the education units.

But, as the saying goes, "the times they are a'changing." There are at least three national centers now conducting well-funded research in teacher education. The Holmes Group and the Carnegie Forum on Education and the Economy have given tremendous impetus—like it or not—to research and reform of teacher education. Reports on the knowledge base for teaching have been released, and NCATE is putting teeth in its accrediting process to insure that the knowledge base is in place in the college curricula for teachers. At least forty-six states have mandated some changes in the way in which teachers are trained or credentialed—primarily through basic skills testing, admission into teacher education, or certification.

So what about vocational teacher education? How has it been affected by the calls for reform and what sort of impact has recent research on teacher education generally had on vocational teacher education? Apparently, at least at the macro—or national—level, not much has happened to reform vocational teacher education. We still don't know much about it. Where it has changed or is changing is because it is a part of some other group's agenda; the resulting reform has not been a result of vocational teacher education's own research, reflection, or volunteerism.

I do know a few things today that I didn't know yesterday. For example,

- 432 colleges and universities, over one-third of the total institutions that prepare teachers, offer at least one vocational teacher education program.
- Just slightly more than twenty-five percent of them—one-hundred and twelve in total—offer four or more programs and these are all at publicly funded institutions. Apparently, a comprehensive design and delivery of vocational teacher education has yet to be realized.
- The largest number of teacher education programs by far are in home economics, the vocational area that, according to NAVE data, seemed consistently to show enrollment decline at the secondary level.
- I know that the number of teachers prepared through preservice programs has increased for the past three years in business education, marketing education, trade and industrial education, and vocational special needs. Completers of preservice vocational teacher education have declined in technology education, home economics, and, significantly, in agricultural education.

- I know now about the professor of vocational teacher education. For example: He is a white male, tenured, forty-nine years old, earns $35,745 for nine-months employment, and has a doctoral degree in vocational education—probably from Ohio State University. He has the following experience: four and a half years in business and industry, five and a half years in the secondary schools, some experience with adult education, and sixteen years in higher education. He spends fifty hours a week on the job, mostly in teaching and service. He knows he should spend more time in research, and admits to giving relatively little attention to scholarship. He is happy and plans to remain in his present employment. Only eleven percent plan to retire within five years.

In a few weeks, I hope to know more about vocational teacher education in our nation's colleges and universities. I hope to have some information about institutions in which it is offered, how it is administered, student admission and exit requirements, and program and curriculum parameters, especially within a context of educational reform. In sum, I hope, Dr. Wirt, that I will have some information to tell you and our nation's policymakers if our new teachers are even remotely prepared to reform vocational education as recommended in the NAVE report.

Interesting, though, is I know today that I still won't know much about the education of a significant number of vocational education teachers. It's been estimated that about seventy-five percent of all trade and industry teachers and fifty percent of health and technical teachers—including beginning teachers today—are nondegreed. Only two states require that all of their vocational education teachers have baccalaureate degrees. Beginning teachers from forty-three states may teach in trade and industrial education without any college credits. I can only speculate as to their ability to teach applied math, science, grammar, communications, and social studies when most of them have not been in any school for at least five years and have no collegiate preparation in the arts and sciences.

What Might NAVE had Said About Teacher Education?

I wish NAVE had talked more about the role of the teacher in bringing about reform or restructuring vocational education. Virtually every education reform report has discussed the important role of the teacher in bringing about measurable educational reform

and restructuring. Surely, teachers must also play a pivotal role in the reform of vocational education.

I remember Ernest Boyer, former U.S. Secretary of Education, clearly commenting that the most significant thing he had learned after commissioning and reviewing the results of millions of dollars of research is that it is the teacher who truly makes the difference in student learning and performance. He, and others, have said, in effect, if we are to have good schools, good programs, and good students, we must have good teachers. It's that simple or, from my perspective, that complicated.

I really don't know how to meet NAVE's vocational education reform agenda of (1) revising vocational curricula, (2) integrating high school vocational and academic curricula, (3) serving at-risk students better, (4) placing students on good jobs, (5) improving transition and linkages between secondary and postsecondary education, and (6) raising the quality of programs for poor and low achieving students without educating well the teaching force to do just that. A cursory review of my data and the seminal research of others indicate that inservice teachers and preservice vocational teacher education are not prepared to accomplish what is suggested by NAVE, and I inform you again that my information is *only* about those that go through a preservice college or university teacher education program.

I have a second wish. I wish NAVE had encouraged a federal role in the education and re-education of vocational education teachers. This report, and virtually all others, implores us to "improve the quality of vocational instruction for all populations." I submit again, without good teachers, you cannot have good instruction nor good programs. The studies on the education and re-education of good teachers—based on research at the National Teacher Education Research Centers—indicate that effective teacher education takes time and it takes money.

What Might The Future Look Like For Vocational Teacher Education?

First and foremost, I hope that there might be some sort of a nationally consistent, broadly communicated philosophy about what an effective vocational education teacher

ought to look like and how he or she is to be educated. What is it we expect of our teachers? What is it we know and believe about our teaching force? How are these beliefs to be translated into teacher education? Are there minimal standards we can expect for all vocational teacher education programs?

In my future, the philosophical underpinnings about vocational teacher education and, indeed, about vocational education will be an integral part of national employment and education policies. Future legislation will recognize the importance of the teacher and instructor—regardless of the environment in which he or she works—in bringing about the two primary goals of federal legislation: (1) improving and modernizing vocational education to meet the needs of the workforce and to promote economic growth, and (2) ensuring that all groups have access to quality vocational education programs. The education of teachers will be an important part of the agenda of labor, education, and commerce.

In my dreams, we will have specified the knowledge base underlying teacher preparation within five years. We will agree that all vocational teachers must demonstrate mastery of the knowledge base. That is, vocational teachers will be adequately educated in subject-matter content; the knowledge, ethos, and structure of the workplace; unique subject matter curricula and its interactive effects with pedagogy and vocational process; the empirical knowledge of effective teaching; information on the institutions in which vocational education is offered and the various designs for its delivery; learning theory and applicable motivation techniques, especially as targeted to at-risk youth and adults; educational ends, purposes, and values; and demonstrated practices of effective vocational teachers.

In my future, disciplined inquiry will guide reform in vocational teacher education. Reform will be nurtured from a desire to understand and to improve—consistent with the fundamental purposes and philosophy of vocational education—rather than from a perceived need to renovate. We will have researched ourselves, and we will have used that research to improve us and our programs. But, friends, the reformed programs won't be based on number-crunching, credit-hour productivity models of teacher education. Rather, in my dreams, answers to underlying crucial questions related to substance, depth, importance, transfer, technology, and enhanced student performance and behavioral change will be provided to guide reform in teacher education.

In five years, I hope we will have experimented with and documented the effectiveness of different delivery systems of teacher education. I hope we will never have to implement just one because, for some group, it makes sense. Perhaps we need to try three: a field-based model for those with considerable business and industry experience, but limited in formal education; a restructured, campus-based baccalaureate model; and a postbaccalaureate model. Based on our knowledge base and our research, certain elements would undergird all models.

Finally, I, too, as part of a five-year agenda, would like to see a national commission established. My commissioners will examine and study vocational teacher education within a context of educational reform, the goals of public education, the philosophy of vocational education, and the knowledge bases for teaching. This will be serious business as the commission's role will be to guide the research and development of knowledge and systems necessary to reform effectively vocational teacher education. It will comprise our response and agenda to the challenge of the Holmes Group; that is, to research and study the issues related to teacher education reform and their effects on vocational teacher education.

I submit to you again, we cannot effectively reform vocational education in the spirit and with the recommendations envisioned by NAVE without educating and re-educating a competent, effective teaching force. Thank you, and have a great conference.

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NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION: IMPLICATIONS FOR GRADUATE EDUCATION IN VOCATIONAL EDUCATION

George H. Copa
University of Minnesota

The National Assessment of Vocational Education (NAVE) is very substantive with respect to direction for the federal role in improving both secondary and postsecondary vocational education. My purpose is to draw out of this report the implications for graduate education programs in vocational education. My remarks are organized around the major components of operating graduate education: (1) program development, (2) recruitment and admission, (3) program of study, and (4) placement and follow-up.

Implications for Program Development

The NAVE report provides several implications for guiding the refining and reforming of graduate education programs in vocational education. Major implications include the following:

1. The goals of the program should emphasize development of leadership skills for *improvement or change* in vocational education.
2. The attention to leadership skills should be at all levels: local, state, and federal. Each plays an important and unique role in the improvement of vocational education.
3. Vocational education should be positioned as a full, contributing partner and leader in the educational reform movement at the secondary and postsecondary levels. Areas of potential leadership by vocational education in the reform process are the integration of vocational and academic subject matter, articulation between educational levels, an increase in educational access, outcome-based education, and the use of performance indicators.
4. The substantive areas of vocational education needing improvement and, therefore, increased attention in graduate education include upgrading the skills content of vocational education; integrating vocational and academic curricula; accelerating the education of at-risk students; improving job placement assistance to

vocational students; making secondary and postsecondary training more complementary; and increasing rates of program completion at the postsecondary level.

5. Learning in graduate education should follow from a knowledge base of proven practice. Graduate study should provide preparation to add to the knowledge base drawing from proven practice.

Implications for Recruitment and Admission

The implications noted here are directed at the process of recruitment and admission of candidates for graduate study. Since learning from peers is an important component of graduate education, recruitment should target on institutions and agencies where program improvement of vocational education is actively underway. We should draw students from demonstration sites, areas of innovation, places recognized for high quality, and people who understand the problems of practicing vocational education. This recruitment strategy recognizes that the knowledge base does not all exist in a library or even in a professor's head, but often is to be found in places where program improvement activities are underway. In this context, it is important to critically examine the idea of what is "improvement" as it relates to vocational education. For example, is the idea of integrating vocational and academic education an educational improvement or is it merely a means of exploiting vocational education and its students: that is, lulling vocational education into being satisfied with second-best academics and "buying into" the academic way of thinking, while, in the process, not honoring student talents often developed only in vocational education programs? Or, is articulation between secondary and postsecondary programs a real benefit to students or a sophisticated form of tracking to keep students in vocational education: to keep vocational education facilities full and teachers employed and away from universities and competition with university graduates for the best jobs and the best futures?

A second point with respect to recruitment is that admission criteria should include evidence of commitment to and record of accomplishment in improving vocational education, in addition to the traditional admission standards of past educational success and standardized aptitude tests. This practice may eventually lead to a higher correlation between graduate admission criteria and later professional success.

Third, recruitment and admission should pay attention to the leadership needs of both secondary and postsecondary vocational education and the experience and expertise of those not employed specifically in vocational education: for example, in Job Training Partnership Act (JTPA) programs, proprietary schools, training and development in business and industry, community-based organizations, and the liberal arts.

Implications for Program of Study

The implications for program of study or coursework are organized around the typical components of a student's graduate program: foundations or general aspects; specialization or concentration; and research, including thesis, dissertation, or field study. With respect to the foundations component, a review of the NAVE report suggests study should include the nature of education, both secondary and postsecondary, and the nature of work and community from a local, state, regional, national, and global perspective.

Concerning the nature of education, special attention should be given to the politics of education—the distribution of power and resources; the economics of education; the sociology of education; the comparative educational systems; education and experience—applied learning, educational continuity, and experiential education; and equity and education.

With respect to nature of work, special emphasis should be given to the relation of work and education; the impact of technological change; the sociology of work; and work and family relations. As a side note, I suggest that we explicitly identify the family as a common *place of work*: something that everyone does, where there is one hundred percent placement in terms of related job, and which has serious problems. The idea of family is often missed as an important part of vocational education and is also missed in the analysis and recommendations of the report.

As foundations study addresses community, special attention should be given to the nature of poverty and inequity; economic development; the local, state, national, and global communities; and the role of education in community development.

In terms of implications of the NAVE report for the specialization component of a graduate program of study, first it seems important to review those special areas of attention already mentioned as implications for graduate development, and to consider study of these areas from both disciplinary and interdisciplinary perspectives. Second, consideration should be given to some new specializations or emphasis within subspecializations, with titles such as educational articulation, educational integration, educational performance, educational change, educational equity, educational quality, secondary education, postsecondary education, at-risk student education, adult education, nontraditional education, work-based education, and transition from school to work.

A third implication with respect to the coursework making up the specialization area of a graduate program is that it should include attention to

1. policy analysis, implementation, and evaluation: setaside targeting, excess costs, and matching formulas;
2. secondary and postsecondary vocational education and the nature of education reform at each level: the potential contribution of vocational education;
3. design of teaching and learning for regular and special, or at-risk, students: the disadvantaged, handicapped, nontraditional, single parents, and the needed services that these groups have—each may require considerable separate study;
4. equity in vocational education: how this is played out within vocational education and the nature of so-called "school effects";
5. educational finance for improvement and the role of local, state, and federal government in this process;
6. educational quality, performance, and accountability: at the secondary level, in terms of contribution to academic learning, responsiveness to multiple needs, and success of at-risk students in demanding programs, expanding job placement, and linking to postsecondary programs; and at the postsecondary level, to labor market outcomes, learner outcomes, and educational attainment;
7. educational organization and governance for vocational education: comprehensive high schools, area vocational high schools, vocational schools, alternative schools, community colleges, technical colleges, area vocational technical institutes, and proprietary vocational schools;

8. full range of services needed for effective vocational education: recruitment; counseling; program of study; and support services, including child care, financial aid, and placement;
9. managing change in the program improvement process such as the areas of developing vision, ownership, priorities, partnerships, transitions, and incentives;
10. curriculum development process: new niches for secondary students with broad occupational training—the transferrable areas and solid academic skills and, at the postsecondary level, curriculum that is modern and up-to-date; and
11. a last part of the program should include internships to bridge theory and practice in the process of change. It's important for graduates to see the criticality of understanding context before or in addition to the study of theory and recommendations.

The next area of implications focuses on the research component. Here the following points seem appropriate as ways to strengthen graduate education in vocational education:

1. We need multiple modes of inquiry in addressing the problems faced by vocational education. Modes of inquiry should include the positivistic or quantitative, with sophisticated analysis such as factor analyses and regression; the interpretive mode of research, the qualitative, and the important use of case studies to help us understand and feel we're on the right track and not naive with respect to the questions we're studying—to come to understand; the critical mode of inquiry so that we're better able to philosophically chart direction and allocate resources fairly—between secondary and postsecondary, regular versus special students, needs of students versus the community, and resources for rural versus urban areas. At this point, including the critical science mode of inquiry would enable vocational education to probe the question of what vocational education should do about improving the desired state of affairs in our places of work: these places include the home, workplace, and the community. Attention to the desired state of affairs would force us beyond attention to skill training, beyond placement, and beyond economic development to the idea of vocational education providing leadership for morally and intellectually reasoned change in workplaces.

2. The thesis or dissertation should be used to develop systematic knowledge about effective practice. Research papers could be targeted on areas of effective practice, to get these practices described, critiqued, disseminated, and replicated.
3. Attention to special topics in dissertations and theses such as the idea of a job skill utilization rate as an advanced form of training-related placement; the idea of voluntary and nonvoluntary nonplacements and frictional nonplacements; new curricular options for secondary vocational education such as broad occupational, transferable training, plus integrated vocational and academic skills; learning academic skills in applied setting or learning alignment; secondary and postsecondary program articulation; quality job placement services; program completion; performance indicators such as those used in outcome based education, indicators specific to different groups of students and educational purposes, indicators which are fair to context, indicators of value added, and operational ways to measure these performance indicators; and performance funding: the idea of incentives following students versus institutions, nonsupplanting and linking quality and resources.

Implications for Placement and Follow-Up

The last set of implications drawn from the NAVE report are for the placement and follow-up component of graduate education. The three major points which seem to follow from the report are the need to

1. get graduates into leadership roles where they can have effects;
2. bring graduates back into programs as adjunct professors, internship supervisors, research project co-investigators, and members of advisory committees and program review teams; and
3. draw future faculty from those graduates with proven experience in program improvement: they've dealt with and experienced problems of equity, gaps, and quality in vocational education.

In summary, the substantive findings of NAVE have significant implications for graduate education. Implications can be drawn for all components of the typical graduate program to include program development, recruitment and admission, and the program of

study—the foundations, specialization, research, and placement and follow-up. As a composite, the implications would serve to make graduate education both a more significant stakeholder and a more responsible player in improving vocational education.

NATIONAL ASSESSMENT AND VOCATIONAL EDUCATION RESEARCH AND DEVELOPMENT

J. David McCracken
Ohio State University

President-Elect
American Vocational Education Research Association

Thank you for the opportunity to represent the American Vocational Education Research Association (AVERA) in this session. AVERA is the professional association for persons conducting research on vocational education, or those having an interest in vocational education research. The topic, "What National Assessment Should Say about Research and Development" is of interest to our membership.

The Malay people of Indonesia and Malaysia have a proverb, "Lain diniat, lain ditakdir" which may be interpreted as meaning that man's desires and God's decrees differ. Man's desires and God's decrees differ. There are obvious differences between the desires of the vocational education research community and the decrees of our federal government about what research it is willing to support. We hope that NAVE might be an instrument in helping us communicate with credibility about needed changes.

Federal legislation often promises more than it can deliver. Arthur Miller stated that "because America has been bigger on promises than any other country, she must be bigger by far on deliveries" (Edelhart & Tinen, 1983, p. 5). In many ways we have had trouble delivering. Vocational education has not solved the ills of society as promised in the 1960s. We must realistically realize that NAVE also will not solve all of our problems. It can, however, provide another source of information, opinion, and dialogue about vocational education in this country.

I have organized my remarks around three major points: (1) what issues are raised by the NAVE report that impact upon research and development, (2) what the report does not say about research and development, and (3) what I hope that future assessment will say about research and development.

The National Assessment Report

The goal of the assessment was to study the implementation of the Carl D. Perkins Vocational Education Act of 1984 and the status of vocational education at the secondary and postsecondary levels. The major concern appeared to be with assessing the goals of the Perkins Act for increasing access of special populations to high-quality vocational education and improving the overall quality of programs. It was concluded that the Perkins Act was a weak instrument to accomplish these goals.

I would like to discuss three of the issues that can be identified by reading the NAVE report. The first issue is the differential impact of federal legislation on area schools when compared with comprehensive schools. The second issue is the impact of federal legislation and the educational reform movement on the curriculum of secondary school students. The third issue relates to the utilization of program improvement funds.

According to Edgar Dale, "In order to be in charge of our life we must be aware of both the little choices and the big choices we are making. We talk a lot about the big, dramatic choices we make in our lives; however, the daily little choices influence and, indeed, determine the big choices. Every day, wittingly or unwittingly, we choose "whether we want to be more or less humane, more or less human" (1984, p. 13). Little steps taken relating to each of the three issues I have raised may change the course of American education for future generations.

Area and Comprehensive Schools

Consider these facts from the NAVE report. Area vocational schools and postsecondary districts received larger grants than regular or comprehensive schools on a per-pupil basis. Three-fourths of the regular or comprehensive school districts received less than $25,000 in federal funds for vocational education under the Perkins Act. Area schools and postsecondary districts received median gifts of more than $90,000. Median expenditures for program improvement funds in separate area vocational school districts were 2.5 times, and in postsecondary institutions 5.1 times, the size of those in regular or comprehensive school districts.

By putting extraordinary emphasis in the form of federal funding on separate vocational schools, the vocational education community gains greater control over the

nature of the educational program. But at what expense? I have been influenced in philosophy by Rupert Evans from the University of Illinois. In his book, *Foundations of Vocational Education*, he warns of the sociological impact of separate vocational schools. These schools prove to be an efficient and effective way to separate the youth of America by socioeconomic class for their educational programs. The resulting dual educational system will result in children of the privileged class studying academic programs in regular schools, and children of the less privileged class pursuing vocational education in an isolated educational environment. This separation has never been the American way. What big choice are we making as a country by the little steps we take to strengthen the separate vocational school at the expense of the comprehensive school?

Reform and the Curriculum

The NAVE report provides some interesting information about vocational education enrollments: students planning to work after secondary school averaged 6.06 credits of vocational education; students planning to advance their education in a postsecondary vocational program averaged 5.81 credits; college-bound students averaged 4.55 credits; and students who expected to graduate from a four-year college averaged 3.17 credits. Total vocational enrollments (average—4.21 credits) exceeded enrollments in English (average—4.02 credits), the largest academic subject. Twenty percent of all high school coursework is taken in vocational subjects (thirty percent for work-bound students). Many students choose vocational education for purposes other than job entry at high school graduation.

Arriving at a sound balance of offerings to meet the needs of students with different goals appears to require significant change in vocational education. The specific preparation-for-work goal conflicts some with the needs of the college-bound student, but have the needs of the college-bound student even been considered by vocational education planners?

Credits taken in vocational education have become more occupationally specific. Skills learned in vocational education in high school that were used on jobs for students who directly entered the workforce was forty-six percent for females and thirty-three percent for males. Maybe more emphasis should be given to transferable skills. Students often enroll in programs even though they lack a strong commitment to the occupational

area. Also, jobs in high-skill areas are often not available to teenage youth leaving high school.

A stronger federal role was recommended to bring vocational education into the larger movement for reform in education. It was also recommended that the federal government bring about reform and improvement of vocational education. What reform is needed? What philosophical position will the reform movement take? My guess is that reforms proposed by vocational educators would be quite different from those proposed by the general academic community. To what extent should the federal government be an actor in the reform movement? To what extent is the federal government a partner in determining the type of education to be provided to the citizenry?

Program Improvement

According to the NAVE report, program improvement funds were used predominantly to purchase equipment. Program improvement funds retained for state-funded projects ranged from ten to forty percent. Curriculum development was the major item funded by state projects. There was little focus on upgrading and improving programs.

The language of the federal legislation has driven the funds to the local level. The local administration is largely preoccupied with staff and equipment. State departments seldom voluntarily expend funds for research and development. Removal of the Research Coordinating Units from legislation has been very instrumental in reducing the attention and emphasis on program improvement.

Program improvement funds and experimental assistance grants were proposed by the NAVE report, but not research and development! I would have hoped to find questions about why the updating of equipment seems to be the primary way program improvement funds are spent. If the federal government wishes to bring about improvement in programs of vocational education, how might that best be accomplished?

Missing from National Assessment

The NAVE report failed to assess research and development relating to vocational education. It also failed to ask whether the goals stated for vocational education in the Perkins Act were the correct ones. Missing also was an assessment as to whether proper resources were allocated in the right ways to accomplish the purposes of the Perkins Act.

Research and Development

No assessment of the contribution of research and development to the improvement of local vocational education programs was found in the report; however, research and development was emphasized in the Perkins Act. Title IV, National Programs, Part A—Research states federal purposes for research on vocational education and authorizes research activities relating to

1. methods for providing education to high-risk groups,
2. strategies for coordinating vocational education,
3. involvement of the private sector in vocational education,
4. enhancement of basic academic skills in vocational settings,
5. curriculum development and instructional methods for new technologies,
6. institutional characteristics which improve preparation for employment,
7. methods for bilingual vocational training, and
8. leadership development and inservice education.

The Perkins Act was to support meritorious, unsolicited research proposals from individual researchers. It was to give preference to local schools conducting research, and a National Center for Research in Vocational Education (NCRVE) was to be funded.

Have meritorious, unsolicited research proposals from individual researchers been encouraged and supported? Has preference been given to local schools conducting research? Should preference be given to these local schools? Most do not have the expertise. What has been the impact of the NCRVE? What has been the contribution of research conducted in vocational education that has not used federal funding? Have the research activities funded by the Perkins Act resulted in significant advances in the state of knowledge about vocational education? It seems to me that the NAVE report has ignored research and development as a viable part of the vocational education enterprise.

Goals for Vocational Education

The NAVE report has not asked the question as to whether the purposes of the Perkins Act are the right ones. For example, is the goal of meeting the vocational education needs of at-risk groups bringing about further separation of vocational and academic education? Is the preferential funding for separate vocational schools furthering a dual educational system at the expense of the comprehensive school? Should all students have some vocational education, or should such education be reserved only for those entering the workforce immediately after high school? We could think of many other questions relating to whether the goals the Perkins Act sets for us are the ones that are the best for our country.

Level of Inputs

Has the NAVE report suggested the appropriate level of resources which should be allocated to vocational education by the federal government? What would it take to do the job. It seems the federal government has moved from funding mainline vocational education to attempting to leverage state and local money to accomplish federal purposes. Will Rogers said, "America invents everything, but the trouble is we get tired of it the minute the new is off" (Edelhart & Tinen, 1983, p. 6). Many vocational educators wonder if the U.S. Congress is tired of vocational education, now that the new is off. More effort is put into inventing a new form of vocational education than in properly supporting an old form that has proven itself. Another Malay proverb states, "Jauhari juga yang mengenal manikam"—it takes a jeweller to know a gem. Most vocational educators recognize the worth of their program, but those outside the system often fail to appreciate its true worth.

Assessment of Research and Development

Research and development is one aspect of vocational education that is especially suited to support at the federal level. One can argue that education is primarily a state and local matter. Few would disagree, however, that research and development relating to publicly supported programs is best funded nationally.

Appropriateness of Goals

I would hope that future assessments of research and development in vocational education would examine federal goals for research. Examination of the research purposes stated in the Perkins Act would seem to limit funding to research on access for at-risk populations and research that is readily applicable to vocational education settings. Why adopt such limiting goals for vocational education research? For example, one of the major problems in the school-to-work transition cannot be dealt with by the school which is preparing the worker. The work must be viewed by potential workers as desirable and worthwhile. The company must be viewed as worthy of loyalty. Yet, by viewing the goals in the Perkins Act, research is limited to educational access of at-risk groups and practical research in vocational education settings.

Appropriateness of Inputs

I would hope that future assessments of vocational education will ask whether the resources or inputs are appropriate for the task. We need the NCRVE, but we also need independent research by competent professionals in universities, research organizations, and state and local agencies. While focused research at the federal level can bring about increased knowledge related to federal goals, other areas, deemed by many to be more important, receive limited encouragement and support.

Appropriateness of Process

Is the process of research appropriate to achieve the goals? Much of the federally funded research has involved broad descriptive surveys of national samples. The national databases have provided excellent opportunities for many researchers to utilize information that would be impossible for them to collect themselves. However, the process of the research is sometimes questionable. Are most of the national samples used in our research really representative of the target populations? How much measurement error is there in the instrumentation used to measure the variables? Is more causal analysis possible so that a greater understanding can be developed of the relationships among variables? What experimentation should be undertaken in an attempt to establish cause and effect relationship?

Value of Results

One last expectation for the NAVE report in terms of research and development would be that we would find out whether the goals of the Perkins Act relating to research are being achieved. Do we now know how to improve access for at-risk groups? Is a better job being done on the competitive process by which research awards are granted? Are research and development results being disseminated more effectively? What results are useable in local and state vocational education settings?

Summary

During this presentation, I have reviewed three issues that I identified in the NAVE report. Those issues were area or comprehensive schools, educational reform and the curriculum, and the small emphasis on program improvement. Missing from the report were an evaluation of research and development, consideration of the goals for vocational education, and the appropriateness of the resources provided to accomplish the legislative goals. My desires concerning what a future assessment might provide concerning research and development included an assessment of the appropriateness of research and development goals, an assessment of the resources and procedures used to accomplish the goals, and an assessment of the results attained.

Here we are in Florida. John McPhee claimed that Florida is "the only wilderness in the world that attracted middle-age pioneers" (Edelhart & Tinen, 1983, p. 163). This NAVE report has been a pioneer work. It has been a pioneer work conducted at vocational education's middle age. If properly done, it has the potential to revitalize vocational education in America. This revitalization, however, will not come only by changes in federal legislation. It will come only if the people desire to work for the needed improvements.

According to Luigi Barzini, "Very few imitators have understood that the secret of the United States' tremendous success is not merely technological, know-how, the work ethic, or greed. It was a spiritual wind that drove the Americans irresistibly ahead. Behind their compulsion to improve man's lot was at first an all-pervading religiousness, later the sense of duty, the submission to a God-given code of personal behavior, the acceptance of a God-given task to accomplish and of all the necessary sacrifices" (Edelhart & Tinen,

1983, p. 47). Speaking of America, Henry James said, "It is the country in the world in which you must do most things for yourself" (p. 4). Teddy Roosevelt said, "I wish to preach not the doctrine of ignoble ease but the doctrine of the strenuous life" (p. 32). It may be as difficult to change the NAVE report as it is to get controlling interest in General Motors, but that does not mean we should not try. Investment in research and development will bring improvements in knowledge about vocational education that will continually revitalize the enterprise and keep it exciting, challenging, and desired by students from all walks of life who are preparing for all walks of life. Let us not fail to work hard for a future for vocational education that we believe will best serve the interest of all Americans.

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WHAT NATIONAL ASSESSMENT SAYS AND WHAT IT SHOULD SAY: SYNTHESIS AND SUMMARY

John Hillison
Professor and Program Area Leader
Agricultural Education
Virginia Polytechnic Institute and State University

In my synthesis and summary section I want to present a brief history of one commission report and Charles Prosser's perspective on federal legislation. I also want to note items in the report that were of interest to me and to make recommendations for further consideration.

Historical Perspective

There was a famous Committee of Ten (Wirth, 1980) appointed by the National Education Association (NEA) in 1892. The committee was chaired by Charles Eliot, president of Harvard. The Committee of Ten recommended that nine high school courses were of equivalent value for college admission. Prior to that time, Greek and Latin were considered the epitome. The addition of such courses as English and mathematics to the list was considered a great liberalization by most.

The NEA Committee of Ten only emphasized college preparation, however, and did not mention vocational education. The National Society for the Promotion of Industrial Education (NSPIE) was displeased with the NEA Committee of Ten report and in the spring of 1908 appointed its own Committee of Ten chaired by Dr. Henry Pritchett, President of the Carnegie Foundation. Among the latter committee's conclusions was the suggestion that

> it is wise for those who have to do with industrial education to welcome during the next decade of experimentation all these forms of industrial education, whether they be in the form of a trade school for boys, and industrial improvement school for boys and adults, or a trade school for the workers of a trade. The Committee of Ten situation is not unlike what occurred in the 1980's when the *A Nation at Risk* report left out vocational education and the profession issued its own report entitled *A Nation At*

Work. It is not unusual for vocational educators to take matters into their own hands when it comes to national reports. (p. 9)

Ten years after the release of the NSPIE Committee of Ten report, the second annual report of the Federal Board for Vocational Education (1918) was published. In that report, a summary statement on the meaning of the vocational education act was written. The statement was probably written by Prosser. If Prosser did not write the statement, at least he approved of it as he was director of the Federal Board for Vocational Education at the time of its publication. The statement which is specific to the Smith-Hughes Act, but still appropriate today and the basis for a good preamble to the National Assessment of Vocational Education (NAVE) report, is as follows:

> The vocational education act is the culmination of an evolution in national appropriations for vocational education. National grants for education in America were made in the early part of the last century. These early grants were given to the states for no specific purpose, without restrictions, without administrative machinery, and without the establishment of safeguards in the expenditure of the money. As might have been expected, the funds, in part, were dissipated, and little, if any, results were gained. Beginning, however, with the Morrill Act of 1862, the Federal Government has, by a series of acts, the second Morrill Act, the Nelson amendment, the Hatch Act, the Adams Act, the Smith-Lever Act, and the vocational education act gradually found its way to a philosophy and policy in the use of national money for vocational purposes—it might better be said for vocational educational purposes—since all of this money has been given for the stimulation and support of vocational training.
>
> Each one of these acts has represented an advancement on the part of the National Government in dealing with the problem. Each act has included provisions which made the work more systematic and effective. The Morrill Act imposed but few conditions in the use of the money by the States. The Smith-Lever Act imposed many conditions. It is safe to say that the vocational education act is the most specific and exacting of all these enactments in its requirements upon the States in the use of Federal money.
>
> In the sweep of almost a century since the early grants were made by the National Government, we have passed from the idea of the use of the Federal money for indefinite educational purposes to the use of Federal money for very specific educational purposes carefully defined in the statute. We have passed from the idea of no obligation on the part of the State in the expenditure of the Federal money to the conception of a solemn obligation on the part of the State to use the money in conformity with the requirements of the law making the appropriation; from the idea of no machinery, no system, and no organization to safeguard and administer the funds to the idea of a definite system, a thoroughgoing organization, and careful safeguards in order that the Federal money may be spent effectively for the purposes intended. (pp. 9-10)

Items of Interest

I was surprised that the assessment was surprised that college-bound students take substantial amounts of vocational education (NAVE, 1989). Vocational educators have advocated that all students can benefit from enrollment in their programs. Evans and Herr (1978) wrote extensively about how vocational education increased individual options to include both work and college. In addition to making cognitive skill development applicable, vocational education helped many students develop the work-oriented talents that helped finance their college educations.

It was interesting to note the terminology of college-bound students versus work-bound students. Even college graduates work. I would certainly hope they would be work-bound, too.

It was also interesting to note that the report (NAVE, 1989) has envisioned a vocational education curriculum which has broad occupational training and integrates vocational and academic instruction. The New Harmony Utopian Society recognized this possibility as early as 1826 (Elliott, 1933; Neef, 1969) and incorporated Pestalozzian-influenced instruction. The Society taught mathematics through carpentry and chemistry through cooking. Vocational education has long provided instruction in a balanced approach that used all three educational domains of affective, cognitive, and psychomotor. The traditional college prep curriculum has so emphasized the cognitive domain that I refer to it as overeducating one-third of the individual. The assessment report has a very valid point on vocational and academic integration with implications for all educators. When will we see the day that academic educators incorporate vocational skills? It should go both ways.

A third area that interested me was the one that had six major objectives for federal policy on secondary vocational education (NAVE, 1989). The following objectives were recommended:

(1) Revise and rebuild the high school vocational curriculum to upgrade skill levels and provide students with the mix of occupationally specific and transferable skills they need to get good jobs or to pursue further training and education at the postsecondary level.

(2) Integrate high school academic and vocational curricula so that students come to vocational programs well equipped with

fundamental academic skills and that vocational courses provide an applied context, based on broad and specific job training, that reinforces and enhances academic skills and motivates students to excel in both academic and vocational courses.

(3) Accelerate the education of at-risk students by providing them with the extra assistance they need to succeed in demanding and highly rewarding vocational courses.

(4) Expand efforts to place students in good jobs that make full use of their vocational and academic training.

(5) Improve the linkages between secondary and postsecondary training so that training is highly complementary for the large group of students who obtain instruction at both levels.

(6) Raise the quality of vocational programs in schools with high concentrations of poor and low achieving students.

At the same time, "NAVE recommends concentrating federal resources on the schoolwide improvement of vocational programs in schools with high concentrations of students at risk" (NAVE, 1989, p. XV).

My experience has been that shotgun priorities with rifle funding usually do not work. The rifle funding is what normally catches everyone's attention. The interesting part is that the report had earlier noted the high enrollment of college prep students in vocational education. However, the recommendations for objectives and funding both clearly give the narrow interpretation of vocational education as that of serving the needs of students at risk.

Recommendations for Consideration

My recommendations can be more liberal than those of the assessment committee, as they had a narrower charge than I have. My thoughts involve youth organizations, broad student populations, and resources.

In continuing to maintain development of the total individual, vocational education must keep its strong emphasis on youth organizations. The youth organizations represent an excellent way to develop affective skills and reward psychomotor and cognitive learning. The federal legislation could subsidize the established vocational youth

organizations in a way similar to the subsidy 4-H receives and make it available to an even wider spectrum of students by reducing or eliminating dues.

Vocational education has a contribution to make to all students. It is not just for college prep students, average students, or students at risk. If vocational education ever gets a reputation as being just for one ability group, a lot of students will miss the opportunity to reap its benefits.

In recognizing the reality of inadequate funds, different recommendations can be made. Normally, the list of priorities with funding becomes the priority. What is wrong with recommending adequate funding for such impact that all students can have the opportunity to benefit from vocational education? Why not recommend adequate funding for all the priorities established?

The NAVE study (1989) had a charge to answer questions about the appropriateness of services provided by the Carl D. Perkins Vocational Education Act. It fulfilled those obligations. I note the influence of the NAVE report on the legislation Congress is currently considering. Those of us charged with writing a summary and synthesis report had the opportunity to look at a broader perspective. I hope both views are given recognition in the future.

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WHAT NATIONAL ASSESSMENT SAYS AND WHAT IT SHOULD SAY: SYNTHESIS AND SUMMARY

Gordon I. Swanson
Associate Director
National Center for Research in Vocational Education
University of California at Berkeley

Anyone who attempts to synthesize the work of the National Assessment of Vocational Education (NAVE) study and its commentary by the three responders—Lynch, Copa, and McCracken—has a task which is both pleasant and puzzling. It is puzzling because the assessment process itself is hard to understand. There are at least two reasons for this. First, the natural dynamics or forces at work in the process are very puzzling. Many of the actors on the stage were not well-known for their work in the field of vocational education, so there was great apprehension as to likely outcomes. At its conclusion, however, many of the fears were allayed.

Second, every national assessment demonstrates an admonition often credited to Mark Twain, namely, that "A person who picks up a cat by the tail will learn something that cannot be learned in any other way." This allows two conjectures: (1) that many of the national assessment problems have no other handle or (2) that amateurs will always seek the most available one.

The presentations of this session have invited a synthesis along four dimensions: (1) legislation, (2) professional standards, (3) performance standards and goal setting, and (4) external forces. In turn, these will be addressed.

Legislation

The legislation governing the assessment has new features to influence the assessment. The law is designed to improve quality and content of vocational education while being targeted at the least advantaged. Simultaneously, it introduces new discontinuities in the flow from secondary to postsecondary instruction. The assessment is, moreover, incomplete. It is focused upon federal requirements appearing to be

governed by the premise that state and local governments are nonexistent. The apprehension mentioned earlier seems, therefore, to be well-founded.

Professional Standards

Neither the legislation nor the assessment mentions instructor preparation, professionalism, or professional standards. Its absence was apparently a Congressional oversight or an inadvertent omission; it had appeared in previous vocational education legislation. Nationwide ferment has already begun; a Professional Standards Board has been sponsored by the Carnegie Foundation to focus public attention on the need to address professional standards in all fields.

Performance Standards and Goal Setting

Performance standards and goal setting are not areas of high emphasis in the present law. Their attention in assessment is, accordingly, low. Yet these seem to be concepts whose time has come. The Nation's governors have given their typical political flavor to an interest in educational goals. Subsequent vocational legislation is likely to have more to say about both performance standards and goal setting. The major apprehension is whether the requirements will be federally prescriptive and unidimensional or whether they will be federally facilitative and multidimensional with solutions as complex, often, as the problems being solved.

External Forces

As usual, the forces external to the legislation, or its requirements, seem to be having the largest effect on vocational education. The two-tiered society, the deskilling of the workforce, the omission of vocational education from the excellence movement, and the rigidity of minimum wage legislation has diminished the hopes of many in the workforce. From the standpoint of national assessment, even local and voluntary efforts are regarded as external. Perhaps it is necessary for the field to have a national assessment of some of these external forces.

Summary

These comments will be concluded by a very brief summary of the presentations of Lynch, Copa, and McCracken.

Richard Lynch lamented the fact that the NAVE report failed to indicate the need for more attention to teacher education. He urged the organization of a Flexner Report for vocational education, one which would restructure the entire system and would reestablish a philosophical underpinning which can be known and understood. He called, further, for the appointment of a National Commission to look exclusively and penetratingly at vocational education.

Referring to the NAVE report as a very substantial piece of work, Copa observed that secondary and postsecondary education had begun to operate in totally different cultures and that program improvement should not omit an emphasis on leadership skills. He concluded his comments with four interesting, and often biting, questions:

1. Is integrating vocational and academic education a way of gulling the field toward a second-rate academic curriculum?
2. Is articulation a real benefit or a sophisticated method of tracking?
3. Is it possible for the instructional program to be more carefully attentive to the workplace, including the home?
4. Can we move more rapidly toward program improvement by looking more closely at effective practice?

David McCracken concluded by raising the most fundamental questions, those which the NAVE report did not raise. Namely, "Are the purposes of the federal legislation the right purposes?", which he followed with a similarly penetrating question, "Is the level of inputs adequate?"